भारतीय मानक
Indian Standard

IS 13952 : 2018

ताड़ गुड़ — विशिष्टि

(पहला पुनरीक्षण)

Palm Jaggery (*Gur*) — Specification

(First Revision)

ICS 67.180.10

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November 2018 **Price Group 2**

Sugar Industry Sectional Committee, FAD 2

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sugar Industry Sectional Committee had been approved by the Food and Agriculture Division Council.

This standard was first published in 1994.

Palm jaggery (*Gur*) is manufactured for human consumption by processing of *Neera* (palm juice) obtained from any of the four varieties of palms, namely, palmyrah palm, date palm, sago palm and coconut palm for human consumption. However, the quality of palm jaggery (*Gur*) manufactured in different regions of the country varies widely and each part of the country follows local practices for quality attributes. This standard has been formulated to provide suitable guidance to the palm jaggery industry for the manufacture of a quality product for local consumption as well as export.

The first revision of this standard has been undertaken to modify the requirements for Polarisation, Total Sugars and SO_2 content, and *vis-a-vis* the requirements of *Food Safety and Standards Act,* 2006 and AGMARK Standards.

In the preparation of this standard, due consideration has been given to the relevant Rules prescribed by the Government of India, under the *Legal Metrology (Packaged Commodities) Rules,* 2011 and *Food Safety and Standards (Packaging and Labelling) Regulation,* 2011. The standard is, however, subject to the restrictions imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

PALM JAGGERY (*GUR*) — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements and methods of test for Palm Jaggery (*Gur*).

2 REFERENCES

The standards referred in the text contain provisions which, through reference in this text constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards referred in the text.

IS No.	*Title*
1943 : 1995	A-twill jute bags (*second revision*)
15279 : 2003	Sugar and sugar products — Method of test

3 REQUIREMENTS

3.1 Description

Palm jaggery shall be prepared in the form of solid lumps which shall be of a firm consistency. It shall be dark brown to light brown in colour free from dirt and other extraneous matter as well as substances deleterious to health.

3.2 Palm jaggery shall be sweet to taste and shall not possess sour, salty or any other objectionable taste.

3.3 The material shall also comply with requirements given in Table 1.

4 PACKING

4.1 Palm jaggery shall be packed in clean, sound and new A-twill jute bags conforming to IS 1943 or polythene lined jute bags or polythene lined woven HDPE bags of food grade quality.

4.1.1 In case of smaller consumer packs, the product shall be packed in food-grade plastics conforming to relevant Indian Standard or any other suitable non-toxic material.

5 MARKING

5.1 Each pack shall be suitably marked so as to provide following information:

a) Name of the material,
b) Grade of palm jaggery,
c) Name and address of the manufacturer,
d) Net quantity of palm jaggery,
e) Season of manufacture, and
f) Any other requirements as specified under the *Legal Metrology (Packaged Commodities) Rules*, 2011 and *Food Safety and Standards (Packaging and Labelling) Regulation*, 2011 and the Rules framed thereunder.

5.2 BIS Certification Marking

The product may also be marked with the Standard Mark.

5.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 2016

Table 1 Requirements of Palm Jaggery (*Gur*)

(*Clause* 3.3)

Sl No.	Characteristics	Requirements	Test Methods, Ref to	
			Annex to this Standard	Clause of IS 15279
(1)	(2)	(3)	(4)	(5)
i)	Polarisation, percent by mass, *Min*	65	—	**5**
ii)	Moisture, percent by mass, *Max*	8.5	—	**4**
iii)	Total ash (on dry basis) percent by mass, *Max*	4	A	—
iv)	Water insoluble matter (on dry basis), percent by mass, *Max*	1.5	—	**14**
v)	Acid insoluble ash (on dry basis), percent by mass, *Max*	0.5	B	—
vi)	Total sugar expressed as invert sugar, *Min*	90.0	—	**7**
vii)	Sulphur dioxide (on dry basis) ppm, *Max*	60.0	—	**13**

and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 SAMPLING

Sampling shall be done as agreed to between the purchaser and the supplier.

ANNEX A

[*Table* 1, *Sl No*. (iii)]

DETERMINATION OF TOTAL ASH

A-1 APPARATUS

A-1.1 Flat-Bottom Dish — of stainless steel, porcelain, silica or platinum.

A-1.2 Muffle Furnace — maintained at 550 ± 25°C.

A-1.3 Desiccator

A-2 PROCEDURE

Weigh accurately about 3 g of the material in the dish, previously dried in an air-oven and weighed. Heat the dish gently on a flame at first and then strongly in a muffle furnace at 550 ± 25°C till grey ash results. Cool the dish in a desiccator and weigh. Heat the dish again at 550 ± 25°C for 30 min. Cool the dish in a desiccator and weigh. Repeat this process of heating for 30 min, cooling and weighing until the difference between two successive weighings is less than one milligram. Record the lowest mass.

A-3 CALCULATION

$$\text{Total ash, percent by mass} = \frac{100 \times (M_2 - M)}{M_1 - M}$$

where

M_2 = mass, in g, of the dish with ash;

M = mass, in g, of the empty dish, and

M_1 = mass, in g, of the dish with the material taken for the test.

ANNEX B

[*Table*1, *Sl No*. (v)]

DETERMINATION OF ACID INSOLUBLE ASH

B-1 REAGENT

B-1.1 Dilute Hydrochloric Acid — Approximately 5 N (prepared from concentrated hydrochloric acid).

B-2 PROCEDURE

B-2.1 Weigh accurately about 5 g of the sample in a tared, clean and dry platinum dish of 100 ml capacity. Carbonize the material in the dish with the flame of a burner. Complete the ignition by keeping in a muffle furnace at 550 ± 25°C until grey ash results. Cool in a desiccator. To the ash, add 25 ml of the dilute hydrochloric acid, cover with a watch glass and heat on a small flame of a burner to near boiling. Allow to cool and filter the contents of dish through Whattman filter paper No. 42 or its equivalent. Wash the filter paper with hot water until the washings are free from chlorides. Return the filter paper and the residue to the dish. Keep it in an air-oven maintained at 105 ± 2°C for about 3 h. Ignite in the muffle furnace at 550 ± 25°C for 1 h. Cool the dish in a desiccator and weigh. Heat again for 30 min in a muffle furnace, cool and weigh. Repeat this process of heating for 30 min, cooling and weighing until the difference between two successive weighings is less than one milligram. Note the lowest mass.

B-3 CALCULATION

B-3.1 Acid insoluble ash, percent by mass = $\frac{100 \times M_1}{M_2}$

where

M_1 = mass, in g, of the acid insoluble ash; and

M_2 = mass, in g, of the sample taken for the test.

ANNEX C

(*Foreword*)

COMMITTEE COMPOSITION

Sugar Industry Sectional Committee, FAD 02

Organization	*Representative(s)*
National Sugar Insititure, Kanpur	Shri Narendra Mohan (***Chairman***) Shri Ashutosh Bajpai
Army Service Core (ASC), New Delhi	Lt. Col B. B. Sahu
CONCERT, Chennai	Shri R. Santhanam Shri M. Somasundaram
Consumer Guidance Society of India, Mumbai	Shri Sitaram Dixit Dr M. S. Kamat
Food Corporation of India, New Delhi	Shri Deepak Kumar Panwar Shri Rakesh Kumar Ranjan
Food Safety Standards Authority of India, New Delhi	Ms Apoorva Srivastava (*Technical Officer*)
Global Cane Sugar Ltd, New Delhi	Dr G. S. C. Rao Mr. Anil Srivastava
Indian Institute of Sugarcane Research, Lucknow	Dr A. D. Pathak Dr. A. K. Sharma
Indian Institute of Toxicology Research, Lucknow	Dr Yogeshwer Shukla
Indian Sugar Mills Association, New Delhi	Shri G. K. Thakur Shri Pankaj Rastogi
Indian Sugar Exim Corporation, New Delhi	Mr Rajiv Aggarwal Mr Rajeev Kurup
Ministry of Consumer Affairs, Food & Public Distribution, New Delhi	Shri Suresh Chandra
National Co-operative Development Corporation, New Delhi	Shri K. P. Vaish Shri N. K. Sharda
National Fed. Of Co-operative Development Corporation, New Delhi	Mr Manohar Gopal Joshi
The Sugar Technologists Association of India, New Delhi	Shri Sanjay Awasthi Shri Anurag Goyal
Triveni Engineering & Industries Ltd, Muzaffarnagar, UP	Rajesh Singh P. K. Khadelwal
BIS Directorate General	Shri P. Rajesh , Scientist 'E' and Head (FAD) [Representing Director General (*Ex-officio*)]

Member Secretary
Shri Rajpal
Scientist 'C', BIS

Bureau of Indian Standards

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This Indian Standard has been developed from Doc No.: FAD 02 (2489).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi